Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

ORIGINAL

In the Matters of	)
	)
Provision of Aeronautical	)
Services via the Inmarsat System	)
via the Inmarsat System	)
	)
Provision of Aeronautical	)
Services via the Inmarsat System	)
Order on Reconsideration and	) CC Docket No. 87-75
Further Notice of Proposed Rulemaking	)
	)
Provision of Aeronautical Services via	)
the Inmarsat System	)
Notice of Proposed Rulemaking	)

REPLY TO OPPOSITION TO PETITION FOR RECONSIDERATION

AMSC Subsidiary Corporation ("AMSC") hereby replies to the Opposition of Comsat Corporation to AMSC's Petition for Reconsideration of the Commission's recent Report and Order in the above-captioned proceeding. Report and Order and Authorization, CC Docket 87-75 (October 23, 1998) ("*Aeronautical Order*"). AMSC demonstrated in its Petition for Reconsideration that the use of Inmarsat's satellites to provide new domestic aeronautical service is an unreasonable departure from established Commission policy designed to support AMSC's efforts to secure stable access to 10 MHz of coordinated L-band spectrum.[1/] Comsat's Opposition fails generally to refute this showing and, in particular, Comsat does not even try to refute AMSC's showing that, instead of seeking to violate the Commission's established spectrum management policy, for as little as $15,000 a year it could connect to AMSC's system and provide its customers with any and all the services that would be available using Inmarsat's system. This unrebutted showing proves that the Commission can maintain its spectrum

---

1/ The 10 MHz referred to here represents 10 MHz in both the downlink band and the uplink band.

management policies and continue to support AMSC's efforts to secure access to 10 MHz of spectrum, without any risk to consumer welfare. At the very least, the Commission should order Comsat to cease using Inmarsat for aeronautical service in the United States until it can demonstrate compliance with the Commission's priority and preemptive access requirements.

Background

In its Petition for Reconsideration, AMSC urged the Commission to reverse its order, and at a minimum require providers of Aeronautical Mobile Satellite Service ("AMSS") to use AMSC space segment on flight segments between two U.S. domestic points.[2/] AMSC pointed out that the MSS L-band has not yet been coordinated, since the international coordination process in this band has only produced temporary arrangements that have failed to provide AMSC with access to its 10 MHz of licensed spectrum.[3/] AMSC stated that Inmarsat's spectrum demands would grow as a result of this decision, and that in the zero-sum negotiations of international coordination, every kilohertz gained by Inmarsat would be AMSC's loss, making it even more difficult for AMSC to coordinate for its licensed spectrum.[4/] Petition at 7. AMSC pointed out that the Commission's goal of monitoring L-band spectrum usage is impractical, since Inmarsat is unlikely to attribute any specific portion of its spectrum demands to domestic AMSS. *Id.* at 7-8.

AMSC stated that it would be able to provide AMSS on international flights in the U.S. on a safe and reliable basis with the cooperation of AMSS providers. AMSC pointed out that its space segment is fully capable of being used by an aeronautical system that incorporates ICAO

2/ AMSC Petition for Reconsideration (November 23, 1998) ("Petition").

3/ Petition at 6-7. The coordination process in the MSS L-band will be complete only when AMSC has gained full access to this spectrum

4/ AMSC disagreed that the amount of additional spectrum required by Inmarsat would necessarily be "minimal," with the AMSS market still in the process of being established and with new equipment and services continuing to be introduced. Petition at 7.

standards, and aeronautical service providers using Inmarsat's system on international flights could easily hand off AMSS traffic to AMSC's satellite -- without installing any additional equipment aboard aircraft -- if they interconnected their earth station facilities with AMSC's Reston, Virginia earth station. *Id.* at 8-9 This would only require the use of a 56K data line, modems, and other interface equipment that AMSC estimates together would cost Comsat or any other aeronautical service provider no more than $15,000 a year.[5/] *Id.* at 9. Following such interconnection, hand-offs between the Inmarsat system and AMSC's ICAO-compliant satellite would be routine, whether on-ground or in-air, and would not require the installation of any additional equipment aboard aircraft. In fact, these hand-offs would be as easy as those between two Inmarsat satellites, a procedure that is safe and well-established, and aeronautical providers could provide the same services to their customers using AMSC's space segment as they do through the Inmarsat system.

AMSC also noted that there is no evidence that Inmarsat or its signatories are capable of meeting the Commission's requirements for priority and preemptive access for aeronautical safety communications. *Id.* at 10.

Discussion

AMSC's Petition demonstrated that there is no legitimate basis for the *Aeronautical Order*'s departure from the Commission's established spectrum management policy in the L-band, which bars other systems from providing service in the United States in the band until AMSC gains access to its 10 MHz of licensed spectrum. Comsat does nothing to rebut this showing.

5/ *See* Petition to Deny of AMSC Subsidiary Corporation, at 8-9, Affidavit of Dennis W. Matheson, FCC File No. ITC-98-089 (March 6, 1998); Petition to Deny of AMSC Subsidiary Corporation, at 2 n. 4, 9, FCC File No. 1281-DSE-P/L-96 (March 12, 1996). Over time, additional data lines could be procured if warranted by a growth in demand for these services.

The Commission should reverse the *Aeronautical Order* and maintain a clear geographic limit on the use of Inmarsat for aeronautical service within the United States.

I. An Inexpensive Connection to AMSC's Space Segment Permits Comsat to Provide Service to Its Customers Without Upsetting Commission Policies

In its Opposition, Comsat ignores AMSC's showing that interconnection with AMSC's earth station would require only the use of a 56K data line and other equipment that would cost no more than $15,000 a year. Comsat claims that interconnection with AMSC's facilities would cost "millions of dollars," but it fails to substantiate this claim despite its being in the best position to produce such evidence. Opposition at 9. Comsat also cites its existing investment in Inmarsat's space and ground segment facilities, but this should be irrelevant to the Commission's public interest analysis. *Id.* Moreover, Comsat should have been aware when it invested in Inmarsat facilities that Commission policies precluded the use of those facilities to provide domestic AMSS unless and until AMSC had secured sufficient coordinated spectrum.

In addition, while the Commission in 1989 required Comsat to develop appropriate hand-off arrangements with AMSC,[6/] Comsat claims that it should not have to interconnect its (Comsat's) ground facilities with AMSC's space segment because "it is AMSC's responsibility to incorporate the applicable international standards into its system design and to work out needed arrangements with AES manufacturers." *Id.* at 8. This position ignores not only the Commission's requirement, but also the efficiency of the interconnection approach that AMSC has described and the obstacles that Inmarsat has created for accessing the proprietary technology that would be required to incorporate such standards. To achieve interoperability between the systems, AMSC would need to license certain protocols that are proprietary to Inmarsat and the

---

6/ In the Matter of Provision of Aeronautical Services via the Inmarsat System, 4 FCC Rcd 6072, 6079 (1989); Communications Satellite Corp., 4 FCC Rcd 7176, 7180 (1989).

Inmarsat aeronautical service providers. Based on its exploration of such an effort, AMSC has concluded that it would cost at least several million dollars for it to establish such compatibility.[7/]

By repeatedly failing to address AMSC's showing regarding the low cost of interconnection, Comsat effectively concedes that AMSC's analysis is correct. Given this concession, it is critical that the Commission reconsider its decision in this proceeding. In particular, the Commission should revisit its conclusion that safe and reliable hand-offs between Inmarsat and AMSC require the installation of additional equipment aboard aircraft. *Aeronautical Order* at para. 15. Because of this view, the Commission declined to adopt more restrictive geographic limits on the use of Inmarsat, since it believed that the space and weight requirements of such installation would raise significant safety and cost considerations. *Id.*

II. Comsat is Wrong that the Commission's Decision Does Not Harm AMSC

In its Opposition, Comsat argues that AMSC will not be harmed by the Commission's decision. Comsat denies that small amounts of MSS L-band spectrum are critical. It asserts further that Inmarsat's provision of AMSS in the U.S. will require only a minimal amount of spectrum that "can easily be accommodated within Inmarsat's present spectrum allocation," and that the Commission "has not awarded Inmarsat any additional spectrum" to provide this service.

7/ In addition to raising false concerns over these hand-offs, Comsat brazenly claims that service over Inmarsat's space segment is inherently superior. Comsat compares the "proven reliability and quality of the Inmarsat system" to the "service problems customers using the AMSC system have faced," specifically citing the "noticeable lag time inherent in AMSC's system." Opposition at 9, n. 27. Contrary to Comsat's characterization, AMSC's system has provided high-quality, reliable service to all of its customers. Particularly stunning is Comsat's reference to the "noticeable lag time" on calls over AMSC's system; any geostationary MSS system such as AMSC's and Inmarsat's experience the same transmission delay, due to the fact that it takes a fraction of a second for a radio signal to travel to and from a geostationary satellite, which orbits the earth at an altitude of 22,300 miles. Unless engineers at Comsat or Inmarsat have figured out a way to circumvent the laws of physics, this delay also occurs on any call over Inmarsat's system, and Comsat's critique is equally applicable to its own service.

Opposition at 5.

Comsat is wrong that the *Aeronautical Order* will not diminish AMSC's access to spectrum in the L-band. In its argument, Comsat fundamentally mischaracterizes the international coordination process. Inmarsat's additional spectrum needs will not be "accommodated within Inmarsat's present allocation." The temporary arrangements between the North American regional MSS operators are based on demand, and, following any increase in the demand for its aeronautical service, Inmarsat logically can be expected to demand more MSS L-band spectrum at the next coordination meeting. As a result, AMSC will find it even more difficult to coordinate access to its 10 MHz of licensed L-band spectrum.[8/]

AMSC's stands by its position that every kilohertz of spectrum matters in the congested MSS L-band. While this may not be the case for Comsat and Inmarsat -- AMSC estimates that Inmarsat currently has access to approximately 15 of the 33 MHz of spectrum in the MSS L-band -- AMSC has never been able to gain access to the minimum amount of spectrum found to be necessary for its viability. Even absent the *Aeronautical Order*, AMSC's spectrum access is becoming more difficult, with the North American regional operators all claiming growth in the demand for their services and with the arrival of a new Japanese system that is seeking approximately 2 MHz in the L-band. Spectrum is the lifeblood of AMSC's system, and, in this environment, even the smallest amount is important to the development of its business.[9/] A key

---

[8/] As stated in AMSC's Petition, the Commission's commitment to closely monitor the impact of its decision on L-band spectrum usage in the U.S. is impractical, as there are no apparent means of determining how much spectrum is or will be used for this service. Inmarsat is unlikely to indicate what portion of its stated spectrum needs result from its provision of AMSS in the United States, and the Commission does not otherwise describe how it will obtain this information.

[9/] In any case, it remains premature to characterize as negligible the amount of spectrum that (continued...)

Commission goal during this proceeding has been to protect AMSC's access to spectrum in the L-band,[10/] and the Commission must recognize that tougher geographic limits on the use of Inmarsat will further this purpose.

Comsat also claims that the spectrum used by Inmarsat and AMSC for aeronautical services is allocated exclusively for AMSS and AMS(R)S, and that AMSC could only use spectrum recovered from Inmarsat through this proceeding for AMSS. Comsat alleges that there is no shortage of aeronautical spectrum in the L-band, since under the Mexico City MOU AMSC has "unrestricted access to a 4 MHz block of spectrum (in each direction) in the middle of the aeronautical band (1551-1555 MHz/1652.5-1656.5 MHz)." Opposition at 6. Again, Comsat is wrong. The U.S. spectrum allocation in the upper L-band plainly permits AMSC to use this spectrum to provide any kind of MSS, not just aeronautical service; the 1549.5-1558.5 MHz/1651-1660 MHz band is allocated on a co-primary basis in the United States to AMS(R)S and generic MSS. 47 C.F.R. § 2.106. In addition, Comsat mischaracterizes the terms of the

---

(...continued)

> will likely be used for AMSS on the domestic legs of international flights. The AMSS market is still in the process of being established, with new equipment and services continuing to be introduced.

10/ In the *Aeronautical FNPRM*, the Commission noted that although it

> generally promoted competition in satellite communications, ... the circumstances presented here pose certain limitations on the extent to which we can achieve a fully competitive U.S. market for MSS systems in the L-band. . . .
>
> We want competition in the U.S., but the first step is to ensure sufficient spectrum for the U.S. domestic MSS system to become an effective competitor. This will require successful completion of the current coordination process.

Id., at paras. 17-19.

Mexico City MOU; the annual temporary spectrum sharing arrangements have not provided (and do not provide) AMSC with exclusive access to the 1551-1555 MHz/1652.5-1656.5 MHz band.[11/] In fact, to the extent that AMSC does operate spectrum in that sub-band, it uses this spectrum to provide all kinds of MSS to its customers. Thus, contrary to Comsat's claims, the L-band spectrum shortage persists throughout the entire band, and spectrum recovered by AMSC through the reapplication of geographic limits on Inmarsat's aeronautical service could be used for any service and would help AMSC in its effort to gain access to its 10 MHz of licensed spectrum.

III. Comsat Has Not Demonstrated That Aeronautical Service Over Inmarsat's System Can Comply with the Commission's Priority and Preemptive Access Requirements

In the Aeronautical Order, the Commission states that any use of Inmarsat space segment in the U.S. is subject to the Commission's priority and preemptive access requirements for aeronautical safety communications. Aeronautical Order at para. 22. While Comsat says that Inmarsat has indicated that its aeronautical service over its space segment fully complies with these requirements, neither Comsat nor Inmarsat provides any evidence of this capability. Opposition at 9-10. Thus, there is no way to know whether the relevant service providers (in this case, Comsat) are currently providing aeronautical service in the United States in compliance with these rules. At the very least, the Commission should order Comsat to cease use of Inmarsat for aeronautical communications in the United States until it can demonstrate compliance with these requirements. If Comsat cannot make this showing, that failure by itself would warrant a reversal of the Aeronautical Order, and a prohibition on the use of Inmarsat's system for AMSS within the United States.

11/ Memorandum of Understanding for the Intersystem Coordination of Certain Geostationary Mobile Satellite Systems Operating in the Bands 1525-1544/1545-1559 MHz and 1626.5-1645.5/1646.5-1660.5 MHz (June 18, 1996).

Conclusion

For all of the aforementioned reasons, the Commission should reconsider and reverse its decision in the above-captioned proceeding.

Respectfully submitted,

AMSC SUBSIDIARY CORPORATION

Bruce D. Jacobs
Stephen J. Berman
Fisher Wayland Cooper
Leader & Zaragoza L.L.P.
2001 Pennsylvania Ave., N.W.
Suite 400
Washington, D.C. 20006
(202) 659-3494

Lon C. Levin
Vice President and Regulatory Counsel
AMSC Subsidiary Corporation
10802 Park Ridge Boulevard
Reston, Virginia 20191
(703) 758-6000

April 29, 1999

CERTIFICATE OF SERVICE

I, Cindi Smith Rush, a secretary to the law firm of Fisher Wayland Cooper Leader & Zaragoza L.L.P., hereby certify that on this 29th day of April, 1999, I served a true copy of the foregoing "Reply To Opposition To Petition For Reconsideration" by first class United States Mail, postage prepaid, upon the following:

James Ball*
Federal Communications Commission
2000 M Street, N.W.
Room 820
Washington, DC 20554

Thomas S. Tycz, Chief*
Federal Communications Commission
2000 M Street, N.W.
Room 811
Washington, DC 20554

Harold Ng*
Federal Communications Commission
2000 M Street, N.W.
Room 830
Washington, DC 20554

George Li*
Federal Communications Commission
2000 M Street, N.W.
Room 835
Washington, DC 20554

Ruth Milkman
Federal Communications Commission
1919 M Street, N.W.
Room 500
Washington, DC 20554

Fern J. Jarmulnek*
Chief, Satellite Policy
Federal Communications Commission
2000 M Street, N.W.
Washington, DC 20554

Joel S. Winnik
Hogan & Hartson
Columbia Square
555 13th Street, N.W.
Washington, DC 20004

The Solicitor & Chief Legal Advisor
The Solicitor's Office
British Telecommunications plc
81 Newgate Street
London, EC1A7AJ, England

John E. Turner
Federal Aviation Administration
800 Independence Avenue, S.W.
Room 800 West
Washington, DC 20591

David L. Bennett
Office of the Chief Counsel
Federal Aviation Agency
800 Independence Avenue, SW
Washington, DC 20591

Carl Wayne Smith
Chief Regulatory Counsel (Telcoms)
Defense Information Systems Agency
Department of Defense
701 S. Courthouse Road
Arlington, VA 22024-2199

Raul R. Rodriguez
Steven D. Baruch
Leventhal, Senter & Lerman
2000 K Street, N.W., Suite 600
Washington, DC 20006-1809

Leslie A. Taylor
Leslie Taylor & Associates
6800 Carlynn Court
Bethesda, MD 20817

Michael J. Hirrel
Department of Justice
Anti-Trust Division
10th and Pennsylvania Avenue, N.W.
Washington, DC 20530

Louis Gurman
Jerome K. Blask
Gurman, Kurtis, Blask & Freedman
1400 16th Street, N.W., Suite 500
Washington, DC 20036

Wayne V. Black
Keller & Heckman
1001 G Street, N.W., Suite 500 West
Washington, DC 20001

Robert E. Conn
Steve Sharkey*
International Bureau
Federal Communications Commission
2000 M Street, N.W.
Room 515
Washington, DC 20037

Jodi Cooper
MCI Communications Corporation
1801 Pennsylvania Avenue, N.W.
Washington, DC 20006

Stephen P. Carrier
Hughes Network Systems, Inc.
11717 Exploration Lane
Germantown, MD 20874

William H. Stein II
National Business Aircraft Association, Inc.
1200 19th Street, N.W.
Washington, DC 20036

Linda K. Smith
709 College Street
Beloit, WI 53511

Wayne Wilkerson
Manager, Business Administration
Ball Aerospace & Technologies Corporation
P.O. Box 1538
Broomfield, CO 80038-1538

G.R. Strevey
Ball Communications Systems Division
P.O. Box 1235
Broomfield, CO 80020-8235

Andrew D. Lipman
Swidler & Berlin, Chartered
300 K Street, N.W., Suite 300
Washington, DC 20007

Thomas Gutierrez, Esq.
Lukas, McGowan, Nace & Gutierrez
1111 19th Street, NW, Suite 1200
Washington, DC 20036

John W. Pettit, Esq.
Drimket, Biddle & Reath
901 15th Street, NW, Suite 900
Washington, DC 20005

Neal M. Goldberg, Esq.
NCTA
1724 Massachusetts Avenue, NW
Washington, DC 20036

Susan Reid Morris, Esq.
Hamel &N Park
888 16th Street, NW
Washington, DC 20006

Gary M. Epstein, Esq.
James Rogers, Esq.
Latham & Watkins
1001 Pennsylvania Avenue, NW
Suite 1300 South
Washington, DC 20004

W. Theodore Pierson, Jr., Esq.
Pierson & Tuttle
1200 19th Street,NW, Suite 607
Washington, DC 20036

David W. Givens, Director
Business Development
Honeywell Commercial Flight Systems
Group
P.O. Box 21111
Phoenix, AZ 85036

James E. Landry, Esq.
Senior VP & General Counsel
Air Transport Assoc. of America
5555 13th Street, NW
Washington, DC 20004-1109

Norman Jackson
Head, Technical Department
International Air Transport Association
IATA Building
20000 Peel Street
Montreal, Quebec, Canada H3A 2R4

Robert S. Koppel, Director
Legal and Regulatory Affairs
IDB Communciations Group, Inc.
15245 Shady Grove Road, Suite 460
Rockville, MD 20850

Peter Tannewald, Esq.
Irwin Campbell & Tannenwald
1320 18th Street, NW, Suite 400
Washington, DC 20036

James Johnson, Esq.
CompassRose International, Inc.
1200 19th Street, NW
Washington, DC 20036

John Bartlett, Esq.
Wiley, Rein & Fielding
1776 K Street, NW
Washington, DC 20006-2304

Robert Ewy
Cabin and Communications Systems SBE
AlliedSignal Commercial Avionics Systems
400 N. Rogers Road
Olathe, Kansas 66062-1294

Jeffrey A. Turner
President
InTouch USA, Inc.
1801 Alexander Bell Drive
Reston, VA 22091

John W. Heard
Brown & Root Services Corporation
4100 Clinton Drive
P.O. Box 3
Houston, TX

Patrick Stewart
Assistant General Manager
Radio Communications Systems Div.
NEC America, Inc.
1525 W. Walnut Hill Lane
Irving, TX 75038

Cindi Smith Rush